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**Notes:**

1. Untranslatable words are replaced with asterisks (\*\*\*).
2. Texts in the figures are not translated and shown as it is.

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Dictionary: Last updated 12/10/2008 / Priority: 1. Electronic engineering / 2. Information communication technology (ICT) / 3. Technical term

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## FULL CONTENTS

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### [Claim(s)]

[Claim 1] The projection equipment which projects the image in which the contents for presentations are shown, and the plotting board for a note which can display the projection image by the above-mentioned projection equipment, The presentation system characterized by having the digital camera which is prepared in the above-mentioned projection equipment in one, and can photo the projection image in the above-mentioned plotting board.

[Claim 2] When the above-mentioned contents are beforehand stored in the computer and a presentation is performed The presentation system according to claim 1 constituted so that the above-mentioned contents might be read from the computer side and it might be made to transmit and project on the above-mentioned projection equipment side as projection data with \*\* by operation of a computer.

[Claim 3] The presentation system according to claim 2 constituted so that the picture photoed with the above-mentioned digital camera might be recorded on the above-mentioned computer.

[Claim 4] The above-mentioned contents are the presentation systems according to claim 1 which constituted the page which consists of a slide recorded by the page unit, and is displayed by operation of the above-mentioned computer one by one so that it might update.

[Claim 5] The presentation system according to claim 4 which constituted the picture photoed with the above-mentioned digital camera so that it might add to the last page of the above-mentioned contents.

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### [Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the presentation system used for a presenter etc. explaining based on a projection image, for example in the announcement of research findings, introduction of an exhibit, or discussion in various meetings.

[0002]

[Description of the Prior Art] Although the image in which the contents for presentations (the contents of explanation) are shown was made to project on a screen with a slide projector in this kind of system conventionally These days, the computer (a personal computer is called hereafter), for example, a personal computer, is made to memorize the above-mentioned contents beforehand, and the method of

making the screen of this personal computer project on a screen with projection equipment is used abundantly.

[0003] By the way, when actually employing such a system, at the site of a presentation, it often arises that a presenter draws a character, a figure, etc. for questions and answers, supplementary information, etc., and shows a hearer. In that case, if a presenter has the plotting board which can be written down on the neighborhood, for example, a blackboard, and a white board, he is explaining to this by writing the above-mentioned character etc.

[0004] Moreover, in the system which introduced the personal computer, if there is no white board etc., projecting the screen of a personal computer on a screen, a personal computer is operated, and a presenter edits the contents for presentations adlib and corresponds.

[0005]  
[The technical problem which invention makes solution \*\*\*\*\*] However, it sets to the conventional presentation system. If the screen for the display of the image in which contents are shown, and the both sides of the plotting board of the white board which a presenter uses for supplementary information notes of can be taken are not prepared, the site of \*\*\*\*\* and a presentation is restricted to the place which can set these.

[0006] Moreover, since a supplementary information sentence etc. is written by hand to the above-mentioned plotting board different from a screen, it is hard to carry out contrast with the supplementary information sentence written to the contents projected on the screen, and the above-mentioned plotting board, and this also becomes delaying an understanding of a hearer to explanation. Furthermore, a presenter also has the troublesomeness which must move frequently between a screen and the above-mentioned plotting boards.

[0007] Since can record the supplementary information sentence written to the plotting board and it cannot leave it unless the print function is attached in particular to the above-mentioned plotting board, it becomes lack of data to change contents later.

[0008] In having made this invention in view of the above-mentioned situation, and becoming unnecessary [ a screen ], Supplementary information by handwriting can be performed on the plotting board as which the image in which contents are shown was displayed, and it becomes that it is easy to make a hearer understand, and a supplementary information sentence etc. can be recorded at any time, and it aims at offering the pre ZENTTESHON system excellent in user-friendliness.

[0009]  
[Means for solving problem] [ the presentation system concerning this invention ] in order to attain the above-mentioned purpose It is characterized by having the plotting board for a note which can display the projection image by the projection equipment which projects the image in which the contents for presentations are shown, and the above-mentioned projection equipment, and the digital camera which is prepared in the above-mentioned projection equipment in one, and can photo the projection image in the above-mentioned plotting board.

[0010] It is indicated by projection at the writing plotting board, and a supplementary information sentence etc. can write the presentation system of this invention by hand to this writing plotting board, and the image in which contents are shown with projection equipment This sake, While the screen only for contents becomes unnecessary and the presentation in a small space site becomes possible, the presenter can answer a question in the position of the above-mentioned plotting board, tends to contrast contents and a supplementary information sentence on the same plotting board, and helps to make a

hearer understand quickly.

[0011] Since the above-mentioned projection equipment is especially equipped with the digital camera, the image of the contents of the plotting board for a note and a handwritten supplementary information sentence can be photoed and recorded arbitrarily, and it is useful to correct contents later.

[0012] [ moreover, the presentation system concerning invention of Claim 2 ] Since the contents beforehand stored in the computer are read and it is made to send out to the projection equipment side when performing a presentation, even if a presenter does not have the full-time staff of operation of a computer, ad lib edit of contents can carry out on that spot.

[0013] The presentation system concerning invention of Claim 3 can record the image pick-up picture of a digital camera on a computer, and the read-out display of contents or supplementary information of it is attained to the above-mentioned plotting board.

[0014] Furthermore, contents consist of a slide recorded by the page unit, and the presentation concerning invention of Claim 4 is updated one by one in a display page by computer. For this reason, even if the presenter's contents of contents are huge, he can explain tidily.

[0015] Moreover, as for the presentation system concerning invention of Claim 5, the image shot of a digital camera is added to the last page of contents. For this reason, contents do not get confused by that picture.

[0016]

[Mode for carrying out the invention] Drawing 1 shows the presentation camera which is one embodiment of this invention.

[0017] the projection equipment with which 1 projects the image in which the contents for presentations are shown in drawing 1 , and the computer by which, as for 2, the contents for presentations were stored beforehand -- for example, It is a note form personal computer with a pressure-sensitive form mouse compatible pointing device, and connects through the cable 4 for signals between the above-mentioned projection equipment 1. The above-mentioned contents can be displayed on Screen 200 ( drawing 3 ) of this personal computer 2 by performing the application software for presentations of a personal computer 2.

[0018] In addition, computers may be other small computers from which not only the above-mentioned personal computer 2 but a form differs.

[0019] The white board 3 is the plotting board for a note which can display the projection image 5 from the above-mentioned projection equipment 1, for example, notes of can be taken with the pen 6 as pens and pencils is used. A projection indication of the image in which the contents which appear on the screen 200 are shown by operation of the above-mentioned personal computer 2 is given through the above-mentioned projection equipment 1 at a white board 3 as it is.

[0020] In addition, the above-mentioned writing plotting board just displays the projection image not only by the white board 3 but the projection device 1.

[0021] The above-mentioned projection equipment 1 is equipped with the digital camera 100 ( drawing 2 ) in one, and this digital camera can photo further the image 5 which shows the contents projected on the white board 3, the character 7 written by the white board 3 by hand with the pen 6 for supplementary information etc., etc. An image shot is taken in and recorded on the above-mentioned personal computer 2 as data with this digital camera 100.

[0022] Drawing 2 shows the composition of the above-mentioned projection equipment 1.

[0023] First, the portion of the digital camera 100 prepared in projection equipment 1 in one is explained.

[0024] In drawing 2, 211 is a whole control section, for example, consists of a microcomputer, and constitutes a means to control organically operation of each part article in the above-mentioned camera 100 and the image pick-up section (not shown).

[0025] 301 is taking lenses, such as a zoom lens which constitutes a part of above-mentioned image pick-up section, and carries out image formation of the optical image of a photographic subject. 303 is a charge-coupled device (CCD is called hereafter) as a photoelectric conversion means, and [ these CCD303 ] In the above-mentioned image pick-up circles, it is arranged in the direction back side of an optical path of the taking lens 301, and is constituted as a color area type sensor. Photoelectric conversion of the optical image with the above-mentioned lens 301 is carried out to the signal which consists of a signal sequence of the picture of the color component of R (red), G (green), and B (blue), i. e., the picture signal received by each pixel.

[0026] 313 is a digital disposal circuit which performs predetermined analog signal processing to the picture signal which is an analog signal from the above-mentioned CCD303. It has a correlation double sampling circuit (CDS is called hereafter) and automatic gain control (AGC is called hereafter), the noise of a picture signal is reduced by CDS, and AGC is made to adjust the level of a picture signal automatically.

[0027] The timing control circuit which 202 is controlled by the whole above-mentioned control section 211, and generates a reference clock, and 314 are timing generators which send out the signal for drive controlling to CCD303 in response to the reference clock from the timing control circuit 202. [ that is, this timing generator 314 ] For example, the timing pulse of the read-out control signals (a horizontal synchronizing signal, a vertical synchronizing signal, a transfer signal, etc.) which read the timing signal of an integration start / termination (an exposure start / termination) and the light-receiving signal for every pixel is generated, and it sends out to the above-mentioned CCD303.

[0028] Since the iris diaphragm is in the fixed state, exposure control in the above-mentioned image pick-up section is performed by adjusting the light exposure of CCD303, i.e., the charge storage time of CCD303 equivalent to shutter speed. When photographic subject brightness is too low to set up proper SHATA speed, the unsuitable right exposure by the shortage of exposure is amended by performing level adjustment of the picture signal outputted from CCD303 by the above-mentioned digital disposal circuit 313. That is, at the time of low-intensity [ of a photographic subject ], exposure control is performed combining shutter speed and gain adjustment.

[0029] The picture signal of \*\* and others is inputted into A-D converter 205, for example, the above-mentioned digital disposal circuit 313 is changed into a 10-bit digital signal.

[0030] The black level correction circuit where 206 amends the black level of the picture signal (image data is called hereafter) by which A/D conversion was carried out to a reference level, and 207 are white balance circuits (WB circuit is called hereafter). Using the translation table inputted from the whole above-mentioned control section 211, this WB circuit 207 changes the level of the picture element data of each color component of R, G, and B, thereby, after gamma (gamma) amendment, also unites white balance and is adjusted automatically.

[0031] In addition, the transform coefficient (inclination of characteristics) of each color component of the above-mentioned level conversion table is set up by the whole above-mentioned control section 211 for every image shot.

[0032] 208 is a gamma correction circuit which amends the gamma characteristics of image data, it has two or more sorts from which gamma characteristics differ, for example, six kinds, of gamma correction tables, and the gamma characteristics of image data are amended by the predetermined gamma correction table according to a photographing scene or a photographing condition.

[0033] The image data outputted from the gamma correction circuit 208 is memorized by the image memory 209. This image memory 209 has a storage capacity for one frame. That is, when the above-mentioned CCD303 have the pixel of the n line m sequence, the image memory 209 has the storage capacity of the picture element data for a pixel of a nxm individual, and is memorized in the picture element position where each picture element data corresponds.

[0034] 213 is a communication interface circuit (I/F for communication) for delivering and receiving data between the above-mentioned personal computers 2.

[0035] In the above-mentioned composition, with the photographing instruction of a personal computer 2, the whole control section 211 reads image data from the image memory 209, and transmits it to the above-mentioned personal computer 2 side through the I/F circuit 213 for communication, and the signal cable 4.

[0036] On the other hand, 41 is a projection lamp in projection equipment 1, and a condenser lens which 46 is arranged ahead [ of the projection lamp 41 / direction of optical path ], and constitutes a projection optical system from a projection lamp 41. 42 is arranged ahead [ direction of optical path ] from the above-mentioned condenser lens 46 -- the liquid crystal driving circuit 44 -- \*\*\*\* -- it is the penetrated type liquid crystal to drive. The data currently displayed on Screen 200 of the above-mentioned personal computer 2 is inputted into the liquid crystal driving circuit 44 of projection equipment 1 through the above-mentioned signal cable 4, and the liquid crystal driving circuit 44 drives the above-mentioned penetrated type liquid crystal 42 synchronizing with the display of Screen 200 of a personal computer 2. The image in which the contents condensed by this penetrated type liquid crystal 42 are shown is projected as a projection image 5 on the above-mentioned white board 3 through the image formation lens 43 ahead of this penetrated type liquid crystal 42.

[0037] Thus, since it is indicated by projection at a white board 3 and the supplementary information sentence 7 etc. can write by hand the image in which contents are shown with projection equipment 1 to this white board 3, the screen only for contents like before becomes unnecessary. For this reason, the small space of a presentation site can be planned. Furthermore, since the presenter can answer a question in the position of a white board 3 and the contents projection image 5 and the supplementary information sentence 7 are displayed on the same white board 3, it is easy to contrast both 5 and 7, and an understanding of as opposed to supplementary information of a presenter in a hearer is brought forward.

[0038] Since the digital camera 100 is especially carried in the above-mentioned projection equipment 1, the image 5 of the contents of a white board 3 and the handwritten supplementary information sentence 7 can be photoed and recorded arbitrarily, and it becomes useful correcting contents later.

[0039] Since the contents beforehand stored in the personal computer 2 are read and it is made to send out to the projection equipment 1 side when performing a presentation, even if a presenter does not have the full-time staff of operation of a personal computer 2, ad lib edit of contents can carry out on that spot.

[0040] Moreover, a digital camera 100 is recordable on a personal computer 2, and at any time, contents and the data of supplementary information can be read from a personal computer 2, and can be displayed on the above-mentioned white board 3.

[0041] By the way, as KONTETSU for presentations is shown in drawing 5 , it consists of a slide of a page unit and the name of one page, 2 pages, and ... is given, respectively. Here, the contents which consist of a slide up to 15 pages are illustrated. These are stored in the hard disk (not shown) of the above-mentioned personal computer 2.

[0042] The display of Screen 200 of the personal computer 2 when performing a presentation is explained with reference to drawing 3 .

[0043] The 10th page of the contents for presentations is displayed on Screen 200 of the personal computer 2, and the control button sequence is displayed on the right-hand side lower part with the contents 201 which consist of a character string. A control button sequence is a page ([ drawing 3 ]) displayed now. It consists of the mode switching button 205 and shutter release 206 for changing the page number display 202, the page return button 203, the skip button 204 and the "edit mode" which display "10", and "presentation mode". Each buttons 203-206 carry out predetermined control by clicking by a mouse cursor M.

[0044] If Screen 200 of a personal computer 2 clicks the page return button 203 by the displaying condition shown in drawing 3 , 9-page data will be called, the display of the above-mentioned screen 200 will be rewritten, and, as for the display of the page number display 202, the page in front of one "9" will be displayed.

[0045] If Screen 200 of a personal computer 2 clicks the skip button 204 by the displaying condition shown in drawing 3 , 11-page data will be called, the display of the above-mentioned screen 200 will be rewritten, and, as for the display of the page number display 202, the page after one "11" will be displayed. A presentation is performed by clicking the skip button 204 in order.

[0046] By the displaying condition which Screen 200 of a personal computer 2 shows to drawing 3 , if a shutter release 206 is pushed, picture element data will be read from the image memory 209 in the above-mentioned digital camera 100, and image data will be transmitted to a personal computer 2 through I/F213 for communication, and the cable 4 for signals. If image data is downloaded to a personal computer 2, additional registration of the image data will newly be carried out to contents as a 16-page slide.

[0047] Thus, whenever it pushes a shutter release 206, an image shot is added to the next page of the page of the very end of contents. That is, the image data currently displayed on the white board 3 when pushing the SHATA button 206 is added to the last next page as a new page.

[0048] for example, [ the picture photoed by the white board 3 with the digital camera 100 like drawing 1 where the character 7 of supplementary information etc. is written by hand ] In addition to the original contents picture 201 displayed on the personal computer screen 200, as shown in drawing 4 , the above-mentioned handwriting character picture 207 is also contained, and these pictures 201,207 are recorded on a personal computer 2, and are registered into contents as a 16-page slide.

[0049] Since contents consist of a slide recorded by the page unit and can update a display page one by one with a personal computer 2, even if the presenter's contents of contents are huge, he can explain tidily. Moreover, since the image shot of the above-mentioned digital camera 100 is added to the last page of contents, contents do not get confused by the picture.

[0050] [ the letter face 208 which the display of Screen 200 of the above-mentioned personal computer 2 shifted to "edit mode" as shown in drawing 6 , and appeared on Screen 200 ] next if the mode switching button 205 is pushed The cursor 209 for character inputs is displayed and the character inputted here by

the keyboard of the personal computer 2 etc. can be displayed.

[0051] However, it is more practical to write a character 7 etc. by hand to a white board 3 at the site of a presentation. This mode is used after the rehearsal of a presentation, or termination.

[0052] In addition, after edit, if the preservation button 210 is pushed, these contents are saved at the hard disk in a personal computer 2, and if the mode switching button 205 is pushed, it will return to "presentation mode." By saving the above-mentioned contents, the result of a presentation can be referred to arbitrarily, and it can have it later, and can be made useful for a supplement of the data for presentations, an improvement of edit and also the advance procedure of a presentation, etc.

[0053] By the way, although stored contents in the personal computer 2 beforehand, the personal computer 2 was operated at the time of a presentation, and application software is performed and being explained with the form of the above-mentioned implementation This system is not limited to the thing using a personal computer 2, and may prepare hardware for exclusive use. Moreover, although inserting in the last page is most desirable as for the picture photoed with the digital camera, depending on a use, you may insert it in arbitrary pages.

[0054]

[Effect of the Invention] As mentioned above, since this invention makes the writing plotting board indicate the image in which the contents for presentations are shown with projection equipment by projection and the character for supplementary information etc. can be written by hand to this plotting board In being able to exclude a screen like before and the restrictions on the space of a presentation site decreasing, the presenter can answer a question in the position of the above-mentioned writing plotting board. Moreover, since a contents image, the above-mentioned handwriting explanatory note, etc. are displayed by the same plotting board, it can carry out by both contrast making it a glance, and is [ become ] easier for a hearer to understand the above-mentioned supplementary information etc.

[0055] Moreover, in invention of Claim 2, since presentation software is performed by operation of a computer in which contents were stored, a presenter operates a computer and ad lib edit of contents can perform him on that spot.

[0056] Furthermore, in invention of Claim 3, since the image pick-up picture of a digital camera is recordable on a computer, it becomes possible to read contents and supplementary information always and to make it display on the writing plotting board.

[0057] Furthermore, by invention of Claim 4, since contents consist of a slide recorded by the page unit and can update a display page one by one by computer, even if the presenter's contents of contents are huge, he can explain tidily again.

[0058] Moreover, in invention of Claim 5, since the image shot of a digital camera is added to the last page of contents, contents do not get confused by the picture.

[Brief Description of the Drawings]

[Drawing 1] It is the perspective view showing the presentation system which is one embodiment of this invention.

[Drawing 2] It is the block diagram showing the outline of the electric system of projection equipment, and an optical system containing the digital camera in this presentation system.

[Drawing 3] It is the figure which illustrated the contents of a screen of the computer in this presentation

system according to the displaying condition of contents.

[Drawing 4] It is the figure which illustrated the contents of a screen of the computer in this presentation system according to the displaying condition of contents and a handwriting character.

[Drawing 5] It is an explanatory view when the contents of a presentation consist of slides.

[Drawing 6] It is the figure which illustrated the contents of a screen of the computer in this presentation system according to the displaying condition at the time of edit.

[Explanations of letters or numerals]

1 Projection Equipment

2 Computer

3 Writing Plotting Board

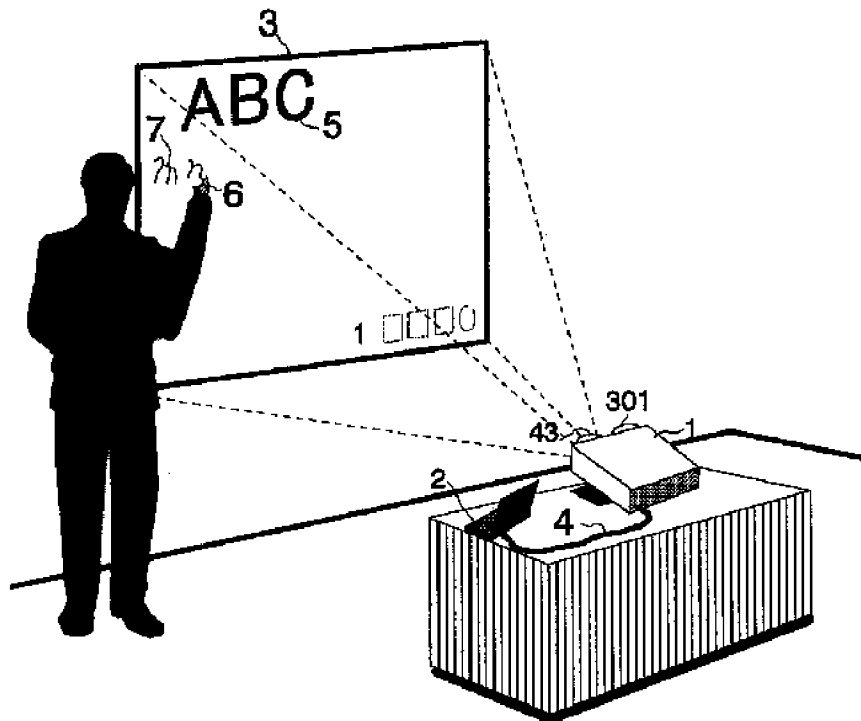
5 Contents

100 Digital Camera

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[Drawing 1]

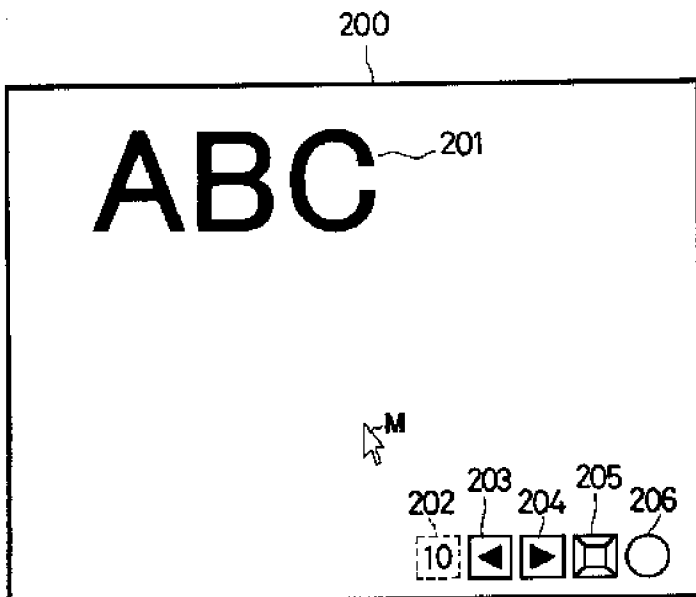
ページ1のスライドを投影しながら、手書きでホワイトボードに文字を記入している



[Drawing 3]

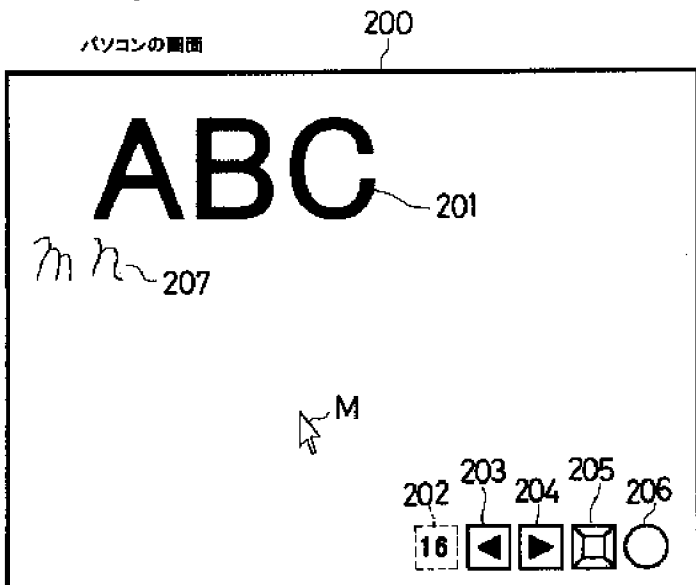


パソコンの画面



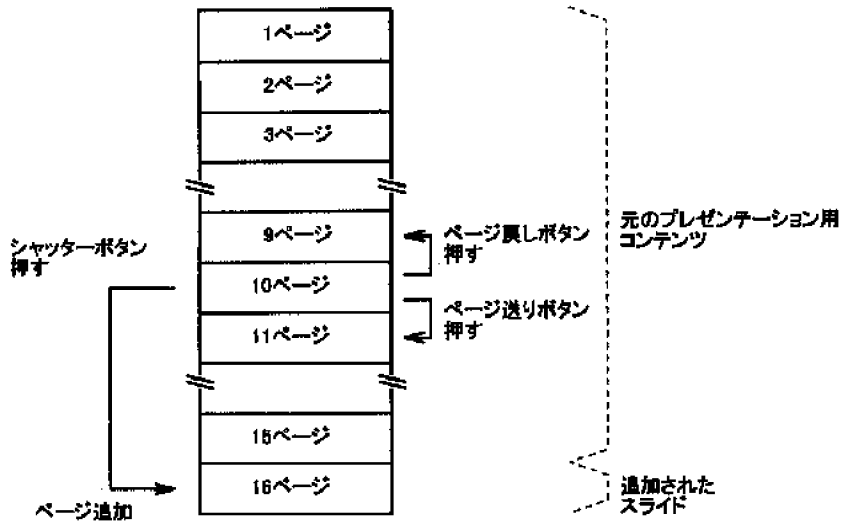
[Drawing 4]

パソコンの画面

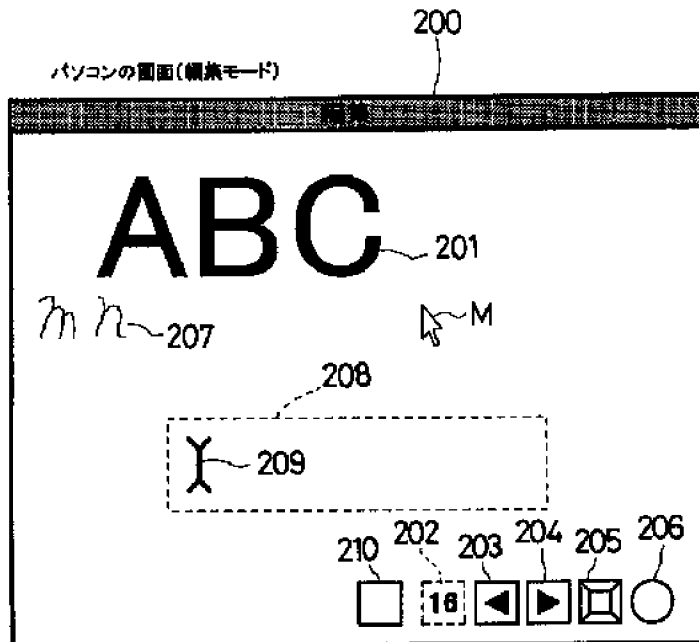


[Drawing 5]

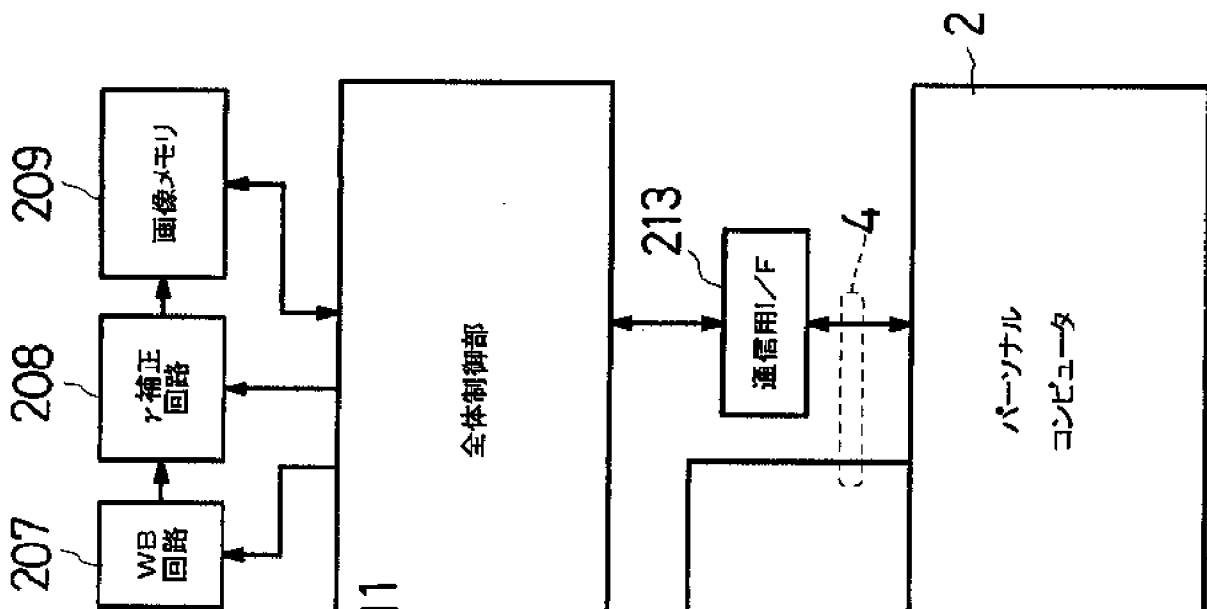
## プレゼンテーション用コンテンツ

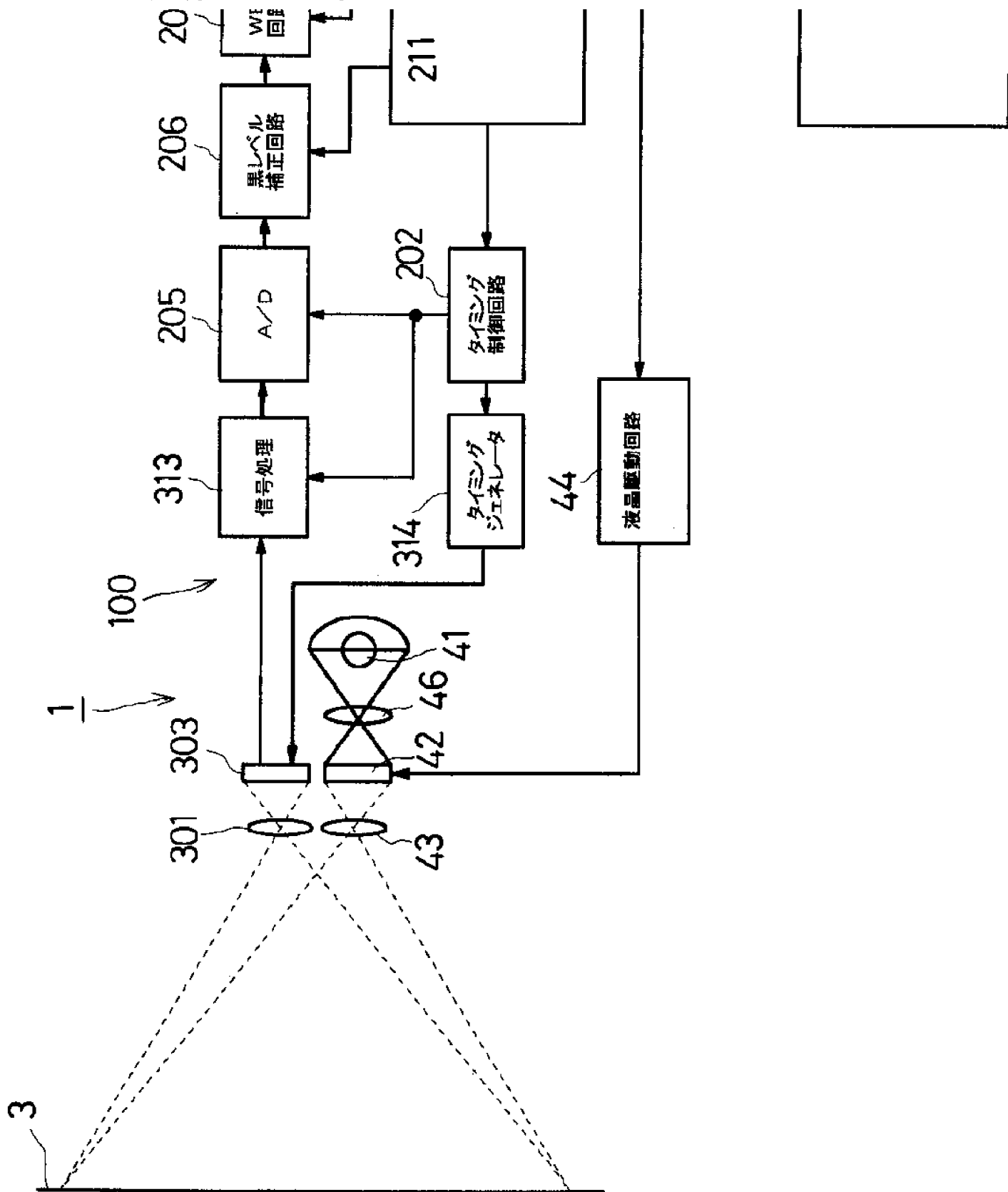


[Drawing 6]



[Drawing 2]





[Translation done.]